CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	**Bitterroot Irrigation District Siphon #1 River Crossing Replacement**
Proposed Implementation Date:	**Fall 2016**
Proponent:	**Bitterroot Irrigation District**
Location:	**Sections 22 and 23, T4N - R21W**
County:	**Ravalli**

I. TYPE AND PURPOSE OF ACTION

The Bitterroot Irrigation District is proposing to replace an elevated siphon pipeline crossing the Bitterroot River. This project (Phase 3) would replace 1,990 ft. of pipeline that includes the Bitterroot River crossing that is supported by a steel bridge over 100 years old. The proposed project has been identified to ensure a continued and secure water supply to area water users. The siphon #1 supplies water to approximately 1,400 households with a need to irrigate over 16,000 acres.

Montana Code (MCA 70-16-201) provides for state ownership from the low water mark to the low water mark on navigable water bodies. Based on historical evidence the Bitterroot River is commercially navigable from the mouth of Jennings Camp Creek on the east fork (SW¼, Sec. 27, T2N - R18W) to its confluence with the Clark Fork River. Therefore, the state claims ownership of the riverbed below the low water mark between these two points. DNRC has received an application for a 60 foot wide easement across the Bitterroot River from the Bitterroot Irrigation District for this project involving .17 acres of State-owned property below the low water mark of the river.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

Morrison & Maierle conducted a public meeting on January 17, 2013. Meeting announcements were published in Ravalli Republic. Montana Department of Environmental Quality, Montana Fish Wildlife and Parks, U.S. Army Corps of Engineers, and the Ravalli County Floodplain Administrator were contacted for required permits and comments. U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, USDA-Natural Resources Conservation Service, Confederated Salish & Kootenai Tribes, Bitterroot Conservation District, Montana Natural Heritage Program, State Historic Preservation Office, and Ravalli County Planning Department were all contacted for comments on the proposed project.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

Montana FWP- SPA 124 Permit;
Montana DEQ- 318 Turbidity Authorization;
Ravalli County Planning Department - Floodplain Permit
US Army Corps of Engineers - 404 Permit

3. ALTERNATIVES CONSIDERED:

The Bitter Root Irrigation District (BRID) evaluated multiple alternatives to replace the Siphon #I crossing including welded steel and double barrel HDPE. Each of the alternatives presented include similar potential environmental impacts because all alternatives included pipe and expansion joint replacement. In addition, multiple alternatives for bridge crossings were evaluated including pre-stressed concrete bridge, steel plate girder bridge, steel pony truss, suspension bridge and self-supporting pipe bridge. Each of the bridge alternatives included similar environmental impacts;

therefore, one environmental checklist has prepared for the preferred Alternative and incorporates by reference the Environmental Information Document (EID) completed by Morrison & Maierle.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

Existing Condition: Soils within the floodplain are mixtures of stratified alluvial sands, silts and gravels mainly from granitic materials that are erosive if disturbed. No unique geology occurs on the project area.

No Action: A Preliminary Engineering Report on Siphon 1 found that a siphon failure is likely and could result in severe erosion and damage to channel banks, irrigated acres, degraded wetlands, and risk to the highway (Gateway 2008).

Action: Potential environmental impacts identified with the replacement of the siphon include physical ground disturbance and temporary removal of vegetation during construction. The proposed DNRC easement is limited to the channel bottom land below the low water mark. For this analysis we also considered proposed operations on the adjacent channel banks that may impact the channel bottom. All operations are planned within the existing pipeline corridor and mainly on previously disturbed areas from the original construction. The construction corridor along the pipeline is expected to be used during dry or frozen conditions suitable for heavy equipment operations. There would be a short term disturbance of the channel during removal of the existing pipeline support structures. All operations are planned to minimize soil disturbance, conserve and re-deposit topsoils, install erosion control measures and promote prompt revegetation of disturbed soils. There would be short term direct impacts to previously impacted ground and minor in-direct or cumulative effects from the proposed actions.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

Existing Conditions: The existing siphon pipeline crossing was constructed in 1909 with a recycled steel truss railroad bridge. The bridge is supported by four steel piles on the west side of the river and six concrete piers on the east side of the river. Three of the four steel piles are within the active river channel and occasionally cause partial blockage from woody debris jams during high flows that further restrict channel flow and leads to channel scour and increased sediment. The crossing has undergone two major failures and numerous repairs.

No Action: The existing siphon pipeline and steel bridge have exceeded the lifespan for materials and the supporting structure and pipeline are aged and failing. A Preliminary Engineering Report on Siphon 1 found that siphon failure would result in loss of water to currently irrigated acres and potential increased sediments and channel scour damage to DNRC ownership and the river system,

degraded wetlands, and risk to the highway (Gateway 2008). To avoid failure, the report found that the entire 5,654-foot-long steel siphon should be replaced.

Action: The existing siphon pipeline crossing would be replaced with a steel pony truss supported by three concrete piers with pile foundations that will "clear span" the active channel. The proposed clear span of the active river channel would reduce the potential for debris jams, associated channel scour and sedimentation. The activities would occur within the existing easement during low flows and every effort is designed to minimize channel and bank disturbance. There would be short term direct effects of increased sediment during removal and replacement of the existing piers that are expected to quickly subside. A 318 short term turbidity permit has been approved and the project and would meet requirements of all relevant permits. The proposed action would have beneficial long term indirect and cumulative effects to water quality based on the improved crossing design, implementation of mitigation measures, permit requirements and findings of associated environmental assessments (MTFWP, Morrison & Maierle EID2016) compared to potential severe failure and impacts with no action. Based on construction at low flows through the winter would have minor effects on navigable status through this site.

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6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

The proposed project is in compliance with the Clean Air Act. Some temporary emission releases are expected during construction activities; however air quality is not expected to be impacted to any measurable degree.

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7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Noxious Weeds: Existing Conditions: Noxious weeds infestations occur along portions of the project area are composed of a combination of spotted knapweed, common tansy and houndstongue. Infestations are located above the area below the low water mark that is DNRC ownership. No aquatic weeds where identified at the site.

No Action: Noxious weeds will continue to occur along the pipeline and levels of infestation will vary depending on level of control measures. No change in effects to DNRC ownership

Action: Operations would involve ground-disturbing activities that have the potential to introduce or spread noxious weeds above the low water mark. For the action alternative, the contractor will be responsible for developing and implementing a weed management plan to promote revegetation and control the spread of noxious weeds. No change in effects to DNRC ownership.

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8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

Existing Conditions: Limited habitats for terrestrial wildlife exist in the project area. Surrounding uplands and riparian habitats likely support a variety of wildlife species. Proximity to Highway 93 and numerous other forms of human disturbance likely limits some wildlife use of the vicinity.

No-Action: No disturbance to terrestrial wildlife would occur. No changes to existing habitats would be anticipated. Collectively, no effects to terrestrial wildlife would be anticipated.

Action Alternative: Some short-duration disturbance to terrestrial wildlife could occur. No appreciable changes to existing habitats would be anticipated. Collectively, negligible effects to terrestrial wildlife would be anticipated.

Existing Conditions: Fisheries
The Bitterroot River supports a diverse fishery. Species present include bull-trout, westslope cutthroat trout (WCT), brown trout, rainbow trout, brook trout, and other minor species (MFISH 2016). Both westslope cutthroat trout and bull trout are considered sensitive species by DNRC. Bull trout is a federally threatened species and potential for impacts to this species are discussed in detail in Section 9 below. Westslope cutthroat trout are considered rare in abundance within the Bitterroot River within the project area.

No-Action: No immediate changes to the crossing or existing fisheries would occur, but there is an increased risk of near term pipeline failure and potential greatly increased sediments and channel scour damage to the river system, and fish habitat in the area of the crossing.

Action Alternative: The proposed activities would occur during low flows, from September through April and periods of short-duration disturbance to sediment and fisheries could occur from the removal of the support piers. Removal of the piers from the active channel and creating a free span support structure would reduce potential for debris jams and channel scour at the crossing site. No appreciable changes to existing fish habitats would be expected. The in-stream work would occur outside the typical spring spawning period for westslope cutthroat trout and allows all fish to seek refuge a short distance from the sites. Impacts to fisheries are expected to minor and would not be considered significant.

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9. **UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:**
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

Existing Conditions: Limited habitats for terrestrial wildlife exist in the project area. The project area is roughly 3 miles from the nearest bald eagle nest; some potential bald eagle foraging habitat exists in the project area. Otherwise habitats for other threatened, endangered, or sensitive terrestrial wildlife species does not exist in the project area. Surrounding uplands and riparian habitats likely support a variety of wildlife species, including common species as well as less common species such as great blue herons, yellow-billed cuckoos, bald eagles, and pileated woodpeckers. Proximity to Highway 93 and numerous other forms of human disturbance likely limits some wildlife use of the vicinity.

No-Action: No disturbance to terrestrial wildlife would occur. No changes to existing habitats would be anticipated. Collectively, no effects to terrestrial wildlife would be anticipated.

Action Alternative: Some short-duration disturbance to terrestrial wildlife could occur. No appreciable changes to existing habitats would be anticipated. In the event a closer bald eagle nest is identified prior to the proposed activities, additional mitigations would be incorporated. Efforts to complete proposed activities prior to the commencement of the bald eagle nesting period (February 1) would reduce potential for effects to bald eagles in the vicinity. Collectively, negligible effects to terrestrial threatened, endangered, or sensitive wildlife species would be anticipated.

Bull Trout Existing Conditions: Bull trout is a federally threatened species with critical habitat in the vicinity of the project area. The entire main stem of the Bitterroot River, including the project area is identified by Montana Fish, Wildlife, and Parks (MFWP) and USFWS as nodal habitat (MBTRT 2000). Nodal habitat includes those areas which provide or have the potential to provide a migratory corridor for bull trout. When Bull trout were ESA listed in 1998, the USFWS stated that bull trout were no

longer present in the main stem of the Bitterroot River (Federal Register 1998, MMEID). Bull trout presence in the Bitterroot River basin is mainly restricted to non-migratory residents in headwater streams (Clancy 1993; MBTSG 1995 MM EID). No bull trout have been captured in the stream reach that includes the project area during fish population surveys completed in 1984, 2003, 2005 2007. The current structure is not a barrier to fish migration.

Bull Trout- No Action: No immediate changes to the crossing or existing fisheries would occur, but there is an increased risk of near term pipeline failure and potential greatly increased sediments and channel scour damage to the river system, and fish habitat in the area of the crossing

Bull Trout Action: Potential direct and indirect impacts to bull trout at the project site: direct mortality of individual fish, disturbance or temporary displacement of fish in the project area, abrupt changes of supporting aquatic and/or riparian habitat in the project area (critical habitat features), and project actions that cause substantial, long-term reductions in water quality due to excessive sedimentation and/or the introduction of toxic substances. Mitigation measures include timing restrictions, erosion control measures; implementing BMP's to minimize the extent and duration of disturbance and sedimentation. Also implement safety requirements to avoid damages or toxic introductions. Based on the small scale of the project and implementation of appropriate conservation/ coordination measures and permit requirements, the proposed construction activities may affect but is not likely to adversely affect bull trout or bull trout critical habitat (refer to MMEID and FONSI). Potential direct and indirect effects related to project activities would not be considered significant, and thus, any cumulative effects to bull trout resulting from activities in the area combined with those related to project activities would not be considered significant (MMEID, MTFWP).

Wetlands: Two small wetlands (non-jurisdictional) were identified within the broader project area near the Bitterroot River but are not located within the DNRC ownership below the low water mark and there would be no impacts.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine effects to historical, archaeological or paleontological resources.

None. The siphon that crosses the Bitterroot River is historic, but it is privately owned by the Bitterroot Irrigation District. As such, the DNRC has no authority to dictate to the Bitterroot Irrigation District how it will manage its property. Issuance of an easement will have No Effect to state owned heritage properties as defined in the State Antiquities Act.

11. AESTHETICS:
Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

None. The existing pipeline crossing would be replaced by a steel pony truss which would have a similar impact on aesthetics.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:
Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

Action: The proposed pipeline replacement would be within the existing footprint of previous construction.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

None.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

None. The proposed project would clear span the channel. This would reduce any negative impacts to human safety by removing steel piles in the river that collect debris and pose a safety hazard to boaters.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

None. The proposed project would ensure a continued and secure water supply to area water users.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

The proposed project would be anticipated to provide a short term employment opportunity for up to 10 people while construction activities occur.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

The proposed project involves replacement of an existing pipeline and bridge structure with a similar structure. Minor, if any, change in tax base and tax revenues would be anticipated.

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

None.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

None.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

The proposed project would clear span the Bitterroot River channel. This would allow for safer recreation on the river by removing debris and in-river piers. Construction would occur outside the boating and fishing season. Therefore, impacts to recreation would be considered beneficial.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:
Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

None. The proposed project involves replacement of an existing structure.

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

None. The proposed project involves replacement of an existing structure

23. CULTURAL UNIQUENESS AND DIVERSITY:
How would the action affect any unique quality of the area?

None. The proposed project involves replacement of an existing structure

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:
Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

Granting of the proposed easement would return approximately $500- $600 to the Public Land-Navigable Rivers trust.

EA Checklist Prepared By:	**Name:**	Thayer Jacques	**Date:**	5/31/2016
	Title:	Hamilton Unit Forester		

V. FINDING

25. ALTERNATIVE SELECTED:

I select the action alternative, granting an easement involving .17 acres of State-owned property below the low water mark of the Bitterroot River thereby accommodating replacement of the siphon #1 river crossing as proposed by the Bitterroot Irrigation District.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The action alternative will not result in significant environmental impacts.

- Subsequent removal of the piers from the active channel and installing a free span support structure will reduce potential for debris jams and channel scour as well as reduce potential hazards to boaters.
- Replacement of the aging structure will reduce the risk of a failure which could cause environmental damage as well as jeopardize the availability of water to irrigators who utilize the Bitterroot Irrigation Ditch system

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

EA Checklist Approved By:	**Name:**	Robert H Storer		
	Title:	Trust Lands Program Manager – SW Land Office		
Signature:	Robert H Storer		**Date:**	June 3, 2016